



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,466	10/23/2003	Eun Kyu Jang	139-011D	2570
23429	7590	11/13/2006	EXAMINER	
GREGORY SMITH & ASSOCIATES 3900 NEWPARK MALL ROAD, 3RD FLOOR NEWARK, CA 94560			CHEN, TIANJIE	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/693,466

Applicant(s)

JANG ET AL.

Examiner

Tianjie Chen

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Non-Final Rejection (RCE)

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/02/2006 has been entered. Claims 1, 3, 5, 6 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 5, and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Applicant Admitted Prior Art (AAPA).

Claim 1, AAPA shows a disk-drive interconnect in Fig. 2, including: a single flexible printed circuit (220) having finger extensions for connecting to 210-216 provided for each and every read-write head (200-206) in a single disk drive; a single disk controller (1000) support connector (226) disposed on the flexible printed circuit (220), and providing for distributed read-write communication to each and every said read-write head (200-206); a single read-write preamplifier (222) disposed on the flexible printed circuit (220), and providing for amplification of said read-write

Art Unit: 2627

communication between each read-write head (200-206) and the support connector (226); a connector bonding site providing for electrical connection of the support connector (226) to the pre-amplifier (222); an electronic component collection bonding site providing for electrical connection of the pre-amplifier (222); and at least two groups of read-write head bonding sites (Specification, p. 5, lines 23-26) providing for electrical connection of said read-write heads (200-206) to the pre-amplifier (222).

Claim 3, AAPA shows a flex interconnection circuit in Fig. 2, including: a single flexible printed circuit (220) having a connector bonding site, and including finger extensions provided for each and every read-write head (200-206) in a single disk drive; a connector (226) bonded to said connector bonding site; an electronic component collection bonded to said an electronics component collection bonding site and including a preamplifier; a read-write head bonded to each of a plurality of read-write head bonding sites; wherein the single flexible printed circuit (220) provides all the electrical connections between the connector and the preamplifier, and also the plurality of read-write heads and the pre-amplifier.

Claim 5, AAPA shows an actuator, including: a single flexible printed circuit (220) having a connector bonding site, and including finger extensions provided for each and every read-write head (200-206) in a single disk drive; a connector (226) bonded to said connector bonding site and disposed on the single flexible printed circuit (220); an electronic component collection bonded to an electronics component collection bonding site and including a preamplifier (222) and disposed on the single flexible printed circuit (220); a read-write head (200-206) bonded to each of a plurality of read-write head bonding sites and all disposed on the single flexible printed circuit (220); said flex interconnection circuit anchored about said preamplifier to said actuator; and at least one binding of said flex interconnection circuit between said preamplifier and said read-write heads; wherein the single flexible printed circuit

Art Unit: 2627

(220) provides all the electrical connections between the connector and the preamplifier, and also all the electrical connections between the plurality of read-write heads and the pre-amplifier.

Claim 6, AAPA shows a disk drive in Fig. 1, including: an actuator, including: a single flexible printed circuit (220) having a connector bonding site, and including finger extensions provided for each and every read-write head (200-206) in a single disk drive; a connector (226) bonded to said connector bonding site and disposed on the single flexible printed circuit (220), and providing for all communication between the disk drive controller printed circuit board and each and every read-write head (200-206); an electronic component collection bonded to an electronics component collection bonding site and including a preamplifier and disposed on the single flexible printed circuit (220); a read-write head (200-206) bonded to each of a plurality of read-write head bonding sites and all disposed on the single flexible printed circuit (2000); said flex interconnection circuit anchored about said preamplifier to said actuator; and at least one binding of said flex interconnection circuit between said preamplifier and said MR read-write head; wherein the single flexible printed circuit (2000) provides all the electrical connections between the connector and the preamplifier, and also all the electrical connections between the plurality of read-write heads and the pre-amplifier.

Response to Arguments

3. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant is advised that carefully and definitely defining invention is essential for an application.

Art Unit: 2627

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is 571-272-7570. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


TIANJIE CHEN
PRIMARY EXAMINER